Volume 107 1980

FEBS

European Journal of Biochemistry

Editorial Board *Honorary Chairman:* Sir Hans Krebs (Oxford)

Editor-in-Chief: Claude Liébecq (Liège)

Associate Editors
Giorgio Bernardi (Paris)
Lothar Jaenicke (Köln)
Pierre Jollès (Paris)
Cees Veeger (Wageningen)

Editors
H. Eisenberg (Rehovot)
F. Franěk (Praha)
G. P. Georgiev (Moskva)
H. G. Hers (Bruxelles)
M. Revel (Rehovot)
M. C. Scrutton (London)
A. Sentenac (Saclay)
W. Zillig (Martinsried)

Special Advisor to the Editor-in-Chief: H. Mayer-Kaupp (Heidelberg)

Advisory Board
B. E. C. Banks (London)
E. K. F. Bautz (Heidelberg)
H. Beaufay (Bruxelles)
L. D. Bergelson (Moskva)
U. Bertazzoni (Pavia)
H. Bloemendal (Nijmegen)
E. M. Bradbury (Davis)
H. Buc (Paris)
M. E. Buckingham (Paris)
P. H. W. Butterworth (London)
E. Carafoli (Zürich)
P. Chambon (Strasbourg)
M. J. Clemens (London)
P. Cohen (Dundee)
K. Decker (Freiburg i.Br.)
G. H. de Haas (Utrecht)
P. De Meyts (Bruxelles)
H. Dutler (Zürich)
C. Gancedo (Madrid)
J.-M. Ghuysen (Liège)
A. A. Hadjiolov (Sofiya)
A.-L. Haenni (Paris)
D. O. Hall (London)
D. H. Hayes (Paris)
E. Heilbronn (Stockholm)
E. J. M. Helmreich (Würzburg)
P. Hemmerich (Konstanz)
A. Henschen-Edman (Martinsried)
H. Hilz (Hamburg)
B. Hirt (Epalinges)
E. Hofmann (Leipzig)
F. Hofmann (Heidelberg)
T. Jovin (Göttingen)
M. Ya. Karpeisky (Moskva)
G. L. E. Koch (Cambridge)
C. G. Kurland (Uppsala)
U. G. Lagerkvist (Göteborg)
A. Levitzki (Jerusalem)
E. Lisowska (Wrocław)
R. Lontie (Leuven)
O. Lüderitz (Freiburg i.Br.)
G. Marbaix (Rhode-St-Genèse)
R. Monier (Villejuif)
K. Mosbach (Lund)
E. A. Newsholme (Oxford)
K. Nierhaus (Berlin)
D. Oesterhelt (Martinsried)
A. Paraf (Thiverval-Grignon)
B. Parthier (Halle)
T. A. J. Payens (Ede)
I. Pecht (Rehovot)
G. Pettersson (Lund)
R. J. Planta (Amsterdam)
P. J. Randle (Oxford)
J. Rétey (Karlsruhe)
J. Ricard (Marseille)
R. Rigler (Stockholm)
H. Rüterjans (Münster)
C. Saccone (Bari)
A. Schellenberger (Halle)
N. Sharon (Rehovot)
H. Sies (Düsseldorf)
V. Skaric (Zagreb)
H. D. Söling (Göttingen)
F. Sorm (Praha)
A. S. Spirin (Pushchino)
J. Stenflo (Malmö)
F. S. Steven (Manchester)
H. Sund (Konstanz)
J. M. Tager (Amsterdam)
W. Tanner (Regensburg)
R. Thauer (Marburg)
J. O. Thomas (Cambridge)
K. F. Tipton (Dublin)
A. Trebst (Bochum)
D. R. Trentham (Philadelphia)
H. Tschesche (Bielefeld)
V. Ullrich (Homburg)
K. van Dam (Amsterdam)
D. Vázquez (Madrid)
J. F. G. Vliegenthart (Utrecht)
J. H. Weil (Strasbourg)
V. P. Whittaker (Göttingen)
M. Wikström (Helsinki)
M. Wilchek (Rehovot)
R. J. P. Williams (Oxford)
E. Wintersberger (Wien)
K. W. A. Wirtz (Utrecht)
B. Wittmann-Liebold (Berlin)
A. V. Xavier (Lisboa)
M. G. Yates (Brighton)
P. Yot (Paris)

Published by Springer-Verlag Berlin Heidelberg New York
on behalf of the Federation of European Biochemical Societies

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is vested in the Federation of European Biochemical Societies.
The use of general descriptive names, trade names, trade marks, etc., in this publication, even if the former are not specifically identified, is not to be taken as a sign that such names are exempt from the relevant protective laws and regulations and may accordingly be used freely by anyone.

Springer Verlag · Berlin · Heidelberg · New York

Printers: Wiesbadener Graphische Betriebe GmbH, Wiesbaden

Printed in Germany

Copyright © by the Federation of European Biochemical Societies 1980

Volume 107 1980

Table of Contents

No. 1 1–296 issued on June 2, 1980
No. 2 297–598 issued on June 16, 1980

Corrections 295
597

Nucleic Acids, Protein Synthesis, and Molecular Genetics

The Effect of Chemical Modification of the CCA End of Yeast $tRNA^{Phe}$ on Its Biological Activity on Ribosomes
T. A. Kruse, G. E. Siboska, M. Sprinzl, and B. F. C. Clark 1

Analysis of the Population of Native 40-S Ribosomal Subunits in Mouse Plasmacytoma Cells Grown in Suspension Culture
E. Vangdal and T. S. Eikhom 15

The Mechanism of Action of Eukaryotic Initiation Factor 4C in Protein Synthesis
A. Thomas, H. Goumans, H. O. Voorma, and R. Benne 39

Phenylalanyl-tRNA, Lysyl-tRNA, Isoleucyl-tRNA and Arginyl-tRNA Synthetases. Substrate Specificity in the ATP/PP_i Exchange with Regard to ATP Analogs
W. Freist and F. Cramer 47

30-S Ribosomal Subunit Proteins of an *Escherichia coli* Mutant in which Assembly of the Small Ribosomal Subunit Is Temperature-Sensitive
S. Schmitt, F. Hayes, and J. Reinbolt 87

Defective Assembly of the Small Ribosomal Subunit in a Temperature-Sensitive Mutant of *Escherichia coli*. Experiments *in vitro*
F. Hayes and S. Schmitt 95

Metabolically Labile Nonhistone Proteins of Chromatin
L. Djondjurov, E. Ivanova, G. Pironcheva, and R. Tsanev 105

On Mechanisms Determining the Interrelationships between DNA and Histone Components of Chromatin
V. D. Paponov, P. S. Gromov, N. A. Sokolov, D. M. Spitkovsky, and P. I. Tseitlin 113

Steroid Receptors and Effects of Oestradiol and Progesterone on Chick Oviduct Proteins
R. L. Sutherland, C. Geynet, N. Binart, M. G. Catelli, P. H. Schmelck, J. Mester, M.-C. Lebeau, and E. E. Baulieu 155

Effect of Tamoxifen on Oestradiol and Progesterone-Induced Synthesis of Ovalbumin and Conalbumin in Chick Oviduct
M. G. Catelli, N. Binart, F. Elkik, and E. E. Baulieu 165

A Trichodermin-Resistant Mutant of *Saccharomyces cerevisiae* with an Abnormal Distribution of Native Ribosomal Subunits
C. J. Carter, M. Cannon, and A. Jiménez 173

Demonstration of Specific Receptors of the Rough Endoplasmic Membrane for the Signal Sequence of Carp Preproinsulin
S. Prehn, A. Tsamaloukas, and T. A. Rapoport 185

Spin-Label Study of Histone H1–DNA Interaction. Comparative Properties of the Central Part of the Molecule and the N and C-Amino Tails
J. J. Lawrence, L. Berne, J. L. Ouvrier-Buffet, and L. H. Piette 263

Interferon Induction by Two 2′-Modified Double-Helical RNAs, Poly(2′-fluoro-2′-deoxyinosinic acid) · poly(cytidylic acid) and Poly(2′-chloro-2′-deoxyinosinic acid) · poly(cytidylic acid)
E. De Clercq, B. D. Stollar, J. Hobbs, T. Fukui, N. Kakiuchi, and M. Ikehara 279

Purification of Mouse Immunoglobulin Heavy-Chain Messenger RNAs from Total Myeloma Tumor RNA
C. Auffray and F. Rougeon 303

Post-transcriptional Polyadenylation Is Probably an Essential Step in Selection of Balbiani Ring Transcripts for a Cytoplasmic Role
E. Egyházi 315

Stimulation of the Synthesis of Ribosomal Proteins in Regenerating Rat Liver with Special Reference to the Increase in the Amounts of Effective mRNAs for Ribosomal Proteins
Y. Nabeshima and K. Ogata 323

Novel Intermediates in the Synthesis of Maltose-Binding Protein in *Escherichia coli*
L. L. Randall, L.-G. Josefsson, and S. J. S. Hardy 375

Transfer RNA Labeling of *Escherichia coli* Methionyl-tRNA Transformylase
C. Hountondji, G. Fayat, and S. Blanquet 403

Hygromycin A, a Novel Inhibitor of Ribosomal Peptidyltransferase
M. Del C. Guerrero and J. Modolell 409

Analysis of Binding Interactions between Histone Core Complex and Simian Virus 40 DNA. A Comparison of Acetylated Versus Non-Acetylated Histone Core Complexes
C. K. Shewmaker and T. E. Wagner 505

Chemically Induced Gene Expression. Manipulation of the Transforming Ability of Simian Virus 40 Minichromatin by Specific Chemical Hyperacetylation of Histones H3 and H4
B. N. Cohen, W. T. Blue, and T. E. Wagner 511

Cellular Localization of the Apurinic/Apyrimidinic Endodeoxyribonucleases in Rat Liver
L. Thibodeau and W. G. Verly 555

The Translational Repression of Globin mRNA in Free Cytoplasmic Ribonucleoprotein Complexes
O. Civelli, A. Vincent, K. Maundrell, J.-F. Buri, and K. Scherrer 577

Protein Chemistry and Structure

Localization of Individual Lysine-Binding Regions in Human Plasminogen and Investigations on Their Complex-Forming Properties
P. G. Lerch, E. E. Rickli, W. Lergier, and D. Gillessen 7

Purification of Haemagglutinin and Neuraminidase from Influenza Virus Strain 3QB and Isolation of a Peptide from an Antigenic Region of Haemagglutinin
A. Aitken and C. Hannoun 51

Amino Acid Sequence of the Proteolipid Subunit of the Proton-Translocating ATPase Complex from the Thermophilic Bacterium PS-3
J. Hoppe and W. Sebald 57

A Study of Structurally Related Binding Properties of Concanavalin A Using Differential Scanning Calorimetry
C. Borrebaeck and B. Mattiasson 67

The Quaternary Structure of Bovine α-Crystallin. Chemical Crosslinking with Bifunctional Imido Esters
R. J. Siezen, J. G. Bindels, and H. J. Hoenders 243

A Conformational Study of Human Spectrin
R. Calvert, E. Ungewickell, and W. Gratzer 363

Characterization of the Metallothioneins Induced in HeLa Cells by Dexamethasone and Zinc
M. Karin and H. R. Herschman 395

Visible and Ultraviolet Spectral Transitions of Camphor-Bound Cytochrome *P*-450. A Comprehensive Study
R. Lange, J. Pierre, and P. Debey 441

A Study of the Mechanism of Ferritin Formation. The Effect of pH, Ionic Strength and Temperature, Inhibition by Imidazole and Kinetic Analysis
E. P. Pâques, A. Pâques, and R. R. Crichton 447

Cytochromes *c*-556 from Three Genetic Races of *Agrobacterium*. Purification and Comparison of Their Properties
J. Van Beeumen, C. Van Den Branden, P. Tempst, and J. De Ley 475

Amino-Acid Sequence of the L-1 Light Chain of Chicken Cardiac-Muscle Myosin
T. Maita, T. Umegane, Y. Kato, and G. Matsuda 565

Enzymology

Production of Glycolate by Oxidation of the 1,2-Dihydroxyethyl-thiamin-diphosphate Intermediate of Transketolase with Hexacyanoferrate(III) or H_2O_2
P. Christen and A. Gasser 73

A Bifunctional Enzyme from Glyoxysomes. Purification of a Protein Possessing Enoyl-CoA Hydratase and 3-Hydroxyacyl-CoA Dehydrogenase Activities
J. Frevert and H. Kindl 79

Purification and Characterization of Esterase 2B of the House Mouse, *Mus musculus*
U. Lexow, A. Ronai, and O. von Deimling 123

Substitution *in vitro* of Lecithin–Cholesterol Acyltransferase. Analysis of Changes in Plasma Lipoproteins
G. Utermann, H.-J. Menzel, G. Adler, P. Dieker, and W. Weber 225

Regulatory Effects of Iodide and Thiocyanate on Tyrosine Oxidation Catalyzed by Thyroid Peroxidase
J.-L. Michot, J. Osty, and J. Nunez 297

Inhibitory Effect of Activated Protein C on Activation of Prothrombin by Platelet-Bound Factor X_a
B. Dahlbäck and J. Stenflo 331

Pyridine Nucleotide Transhydrogenase from *Azotobacter vinelandii*. Differences in Properties between the Purified and the Cell-Free Extract Enzyme
G. Voordouw, S. Van Der Vies, J. W. Scholten, and C. Veeger 337

The Aldolase-Substrate Intermediates and Their Interaction with Glyceraldehyde-3-phosphate Dehydrogenase in a Reconstructed Glycolytic System
E. Grazi and G. Trombetta 369

Substrate-Induced Dissociation of Glycerol-3-phosphate Dehydrogenase and Its Complex Formation with Fructose-bisphosphate Aldolase
J. Batke, G. Asbóth, S. Lakatos, B. Schmitt, and R. Cohen 389

The Indirect Mechanism of Action of the Trifluoroacetyl Peptides on Elastase. Enzymatic and ^{19}F NMR Studies
J.-L. Dimicoli, A. Renaud, and J. Bieth 423

Kinetic Studies of the Reaction of Ferric Soybean Leghemoglobins with Hydrogen Peroxide, Cyanide and Nicotinic Acid
D. Job, B. Zeba, A. Puppo, and J. Rigaud 491

Effect of *N*-Acyl Substitution at Glucosamine Residues on Lysozyme-Catalyzed Hydrolysis of Cell-Wall Peptidoglycan and its Oligosaccharides
K. Amano, Y. Araki, and E. Ito 547

Carbohydrates, Lipids and Other Natural Products

The Ganglioside Content of the Milk Fat-Globule Membrane and the Mouse Mammary-Tumour Virus Isolated from the Milk of Infected Mice. Partial Characterization of a New Disialoganglioside
C. Gosselin-Rey, L. Gosselin, C.-M. Calberg-Bacq, C. François, S. Kozma, P. M. Osterrieth, and G. Van Dessel 25

Structural Studies on the Glucose-Heptose Region of the *Proteus mirabilis* R Core
J. Radziejewska-Lebrecht, U. Feige, M. Jensen, K. Kotefko, H. Friebolin, and H. Mayer 31

Structural Studies on the O-Specific Polysaccharide Side-Chains of *Yersinia pseudotuberculosis*, Type III, Lipopolysaccharides
R. P. Gorshkova, N. A. Komandrova, A. I. Kalinovsky, and Y. S. Ovodov 131

Lipopolysaccharide Heterogeneity in *Salmonella typhimurium* Analyzed by Sodium Dodecyl Sulphate/Polyacrylamide Gel Electrophoresis
E. T. Palva and P. H. Mäkelä 137

Heterogeneity of Antigenic-Side-Chain Length in Lipopolysaccharide from *Escherichia coli* 0111 and *Salmonella typhimurium* LT2
R. C. Goldman and L. Leive 145

Competing Pathways in the Formation of Alkyl, Alk-1-enyl and Acyl Moieties in the Lipids of Mammalian Tissues
K. D. Mukherjee, N. Weber, H. K. Mangold, M. Volm, and I. Richter 289

Purification and Properties of Hamamelosekinase
E. Beck, J. Wieczorek, and W. Reinecke 485

Physical Biochemistry

Metal Ion/Buffer Interactions. Stability of Binary and Ternary Complexes Containing 2-[Bis(2-hydroxyethyl)amino]-2(hydroxymethyl)-1,3-propanediol (Bistris) and Adenosine 5'-Triphosphate (ATP)
K. H. Scheller, T. H. J. Abel, P. E. Polanyi, P. K. Wenk, B. E. Fischer, and H. Sigel 455

Membranes and Bioenergetics

Properties of the Hydrogenase of *Megasphaera elsdenii*
C. Van Dijk, H. J. Grande, S. G. Mayhew, and C. Veeger 251

Phosphorylation of Plasma Membrane Proteins Dependent on Adenosine 3',5'-Monophosphate in Rat-Glial C6 Cells
R. Salem and J. De Vellis 271

The Role of the Light-Harvesting Chlorophyll *a*/*b*-Protein Complex in Chloroplast Membrane Stacking. Cation-Induced Aggregation of Reconstituted Proteoliposomes
I. J. Ryrie, J. M. Anderson, and D. J. Goodchild 345

Properties and Structural Role of the Subunits of Human Spectrin
R. Calvert, P. Bennett, and W. Gratzer 355

Purification and Characterization of an Aminopeptidase A from Hog Intestinal Brush-Border Membrane
A. Benajiba and S. Maroux 381

The Incorporation of Acetylcholinesterase from the Electric Organ into Liposomes
E. L. M. Ochoa 415

Uptake of Iron from Transferrin by Isolated Rat-Liver Mitochondria Mediated by Phosphate Compounds
K. Konopka and I. Romslo 433

Direct Oxidation of NADPH by Submitochondrial Particles from *Saccharomyces cerevisiae*
F. H. S. Djavadi, M. Moradi, and L. Djavadi-Ohaniance 501

Cellular Biochemistry and Metabolism

The Relationship between Intramitochondrial *N*-Acetylglutamate and Activity of Carbamoyl-Phosphate Synthetase (Ammonia). The Effect of Glucagon
H. E. S. J. Hensgens, A. J. Verhoeven, and A. J. Meijer 197

On the Role of Dihydroorotate Dehydrogenase in Growth Cessation of Ehrlich Ascites Tumor Cells Cultured under Oxygen Deficiency
M. Löffler 207

Simultaneous Decrease in Deamination of 5'-Adenylic Acid and 5'-Deoxy-5'-*S*-isobutyl-thioadenosine in Chick-Embryo Fibroblasts Infected by Rous Sarcoma Virus
F. Lawrence, M. Richou, and M. Robert-Gero 467

Glycogen Synthase Kinase-3 from Rabbit Skeletal Muscle. Separation from Cyclic-AMP-Dependent Protein Kinase and Phosphorylase Kinase
N. Embi, D. B. Rylatt, and P. Cohen 519

Glycogen Synthase from Rabbit Skeletal Muscle. Amino Acid Sequence at the Sites Phosphorylated by Glycogen Synthase Kinase-3, and Extension of the N-Terminal Sequence Containing the Site Phosphorylated by Phosphorylase Kinase
D. B. Rylatt, A. Aitken, T. Bilham, G. D. Condon, N. Embi, and P. Cohen 529

Characteristics of the Carbohydrate Moiety and the Intermolecular Associations of the High-Molecular-Weight Forms of α_{2u}-Globulin
L. J. Haars and H. C. Pitot 539

Subcellular Distribution of Proteolytically Generated Valine in Isolated Rat Hepatocytes
A. E. Solheim and P. O. Seglen 587

Developmental Biochemistry and Immunology

Acquisition of an Insulin-Sensitive Activity of Adenosine-3',5'-Monophosphate Phosphodiesterase during Adipose Conversion of 3T3-L2 Cells
T. Murray and T. R. Russell 217

Indexed in Current Contents